

SeaRAM Evolved Ship Defense



SeaRAM Missile Defense System provides the highest level of ship self-protection with extended keep-out range capability and the ability to engage multiple targets.

Benefits

- Extends the inner layer battlespace, enabling ships to effectively engage future high-performance, supersonic, and subsonic threats
- Incorporates technology from Phalanx CIWS and RAM
- Combines RAM's superior accuracy, extended range, and high maneuverability with Phalanx's high resolution target detection and quick response capability
- Integral part of layered surface and anti-air self-defense capability

The SeaRAM Anti-ship Missile Defense System is an evolved MK15 Close-In Weapon System (CIWS) comprising key attributes of both the Phalanx CIWS and the Rolling Airframe Missile (RAM) Guided Weapon System. The MK15 Mod 31 SeaRAM extends the inner layer battlespace and enables the ship to effectively engage future high-performance, supersonic, and subsonic threats at greater distances. The system provides the highest level of ship self-protection with extended keep-out range capability and the ability to engage multiple targets. These important features strengthen the ship's ability to sustain its mission in the most challenging littoral environments.

Technology from the MK15 Phalanx CIWS and RAM integrates elements of each system into the self-contained SeaRAM system. An 11-missile round RAM launcher assembly,

loaded with RAM guided missiles, replaces Phalanx's 20 mm gun. SeaRAM combines RAM's superior accuracy, extended range and high maneuverability with the Phalanx Block 1B's high resolution search-and-track sensor systems and reliable, quick-response capability.

SeaRAM is an affordable capability upgrade — an especially attractive option for those navies that have already deployed the Phalanx CIWS. SeaRAM fits the exact shipboard installation footprint of the Phalanx, uses the same power and requires minimal shipboard modification. SeaRAM is well suited to new construction and requires minimal system integration because of its self-contained features. The integration risk is minimized because RAM and Phalanx are already being deployed as a part of the U.S. Navy's integrated Ship Self-Defense System.

The SeaRAM system is a complete and autonomous weapon system with its own sensor suite, combat system and weapon. Like the Phalanx, only power and cooling water are required from the ship. Evolved from the Phalanx Block 1B system, SeaRAM includes the latest version Ku-band search and track radar and a new forward looking infrared (FLIR) imaging system. SeaRAM's sensor suite provides multispectrum search and targeting capabilities for daytime and nighttime operations. Below decks, the SeaRAM system uses the same control panel and consoles that are deployed as part of Phalanx 1B upgrade; thus, no changes in equipment space or footprint are required. The local and remote consoles provide the operator with video images from the FLIR for threat detection and track. The operator can establish positive identification of precisely where or what the



system is tracking. Each console contains a display, keyboard and joystick handle. For low-velocity threats the operator is able to move the mount, designate and engage the target. The local control station houses the unique SeaRAM electronics and provides an interface to the SeaRAM. The local control station also provides the necessary FDDI, NTDS or 1553 interface to the ship's combat system, should it be required or desired.



SeaRAM on HMS York during sea trials

Currently, both Lockheed Martin and General Dynamics have selected SeaRAM as a key component of their respective U.S. Navy Littoral Combat Ship designs.

RAM Specifications

Length:	9.3 ft	2.83 m
Diameter:	5 in	12 cm
Speed:	Supersonic	
Wingspan:	17.5 in	43.75 cm
Guidance:	Dual Mode	
Warhead:	22.1 kg	10 kg
Weight:	162 lb	73.5 kg

SeaRAM Weapon Group

Sensors

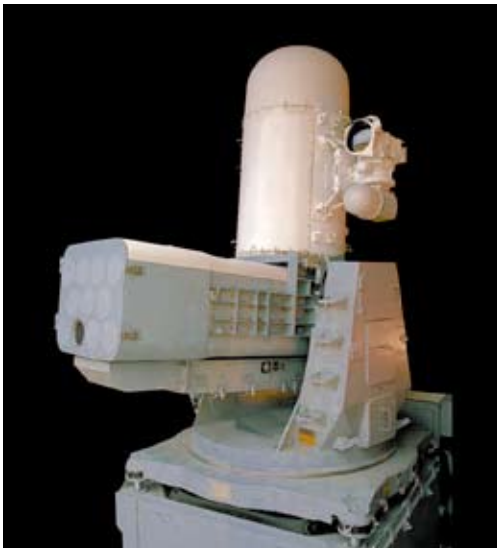
Search Radar:	Ku-band, Digital
Track Radar:	Ku-band, Pulse Doppler, Monopulse
FLIR:	LWIR
ESM:	Integrated with ship's ESM or optional self-contained (optional)

Physical Specifications

Elevation:	-10° to +80°
Above-Deck Weight:	15,520 lb (including missile rounds)
Train:	± 155°
Below-Deck Weight:	1,575 lb
Working Circle:	137 in
Capacity:	11 Missiles

Threat Coverage

Anti-ship cruise missiles, surface craft, helicopters, unmanned aerial vehicles and fixed wing aircraft (all types)



Local Control Station



Remote Control Station (RCS) in CIC



RIM-116B RAM Missile

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